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What's in a genome? Self-perception in a new age

by Prof. Hub Zwart

In the 1900's, psychology changed the way individuals saw and referred to themselves. In the age of (post)genomics, will our sense of self alter once more to include the new labels research will give us access to? Professor Hub Zwart explores.

Twenty-five years from now, something like 25% of the population of the Netherlands will be over 65 years old. For other European countries, demographic estimates will be similar. A century ago, at 65, life was more or less seen as spent. But this has clearly changed.

Pressures will increase to postpone and delay the inevitable degradation of human bodies and brains. Individuals will be increasingly expected to become the managers of their own personal physical and mental condition. And they will have new tools at their disposal that will allow them to assume this role in a more evidence-based way.

Biobanking will enable researchers worldwide to disentangle the complex relationships between genomes and health issues. And individuals will increasingly be encouraged to take an entrepreneurial stance to life. They will have their own genetic bank account as it were. At birth, their personal genome will be sequenced: their starting capital, deposited in a DNA bank.

It will allow them to subject themselves to a kind of SWOT analysis, exploring the strengths and weaknesses, risks and opportunities that are entailed in their genome. Subsequently, they are 'empowered' to adapt their diet, life style and drug use, their career choice and partner choice to their genetic profile.

They may even begin to see their bodies as reservoirs of highly valuable resources, as their genes, genome sequence, enzymes, cells, blood

cells, tissues and organs become entities with market value. But this will also affect the way we think and speak and write about ourselves.

A century ago, psychology became a modern science. This has had a significant impact on our self-image. Due to personality tests, for instance, developed by psychologists, we tend to see ourselves as 'introverts' or as 'extraverts', as 'alpha' or 'beta' males or females; we define our way of thinking and responding in terms of 'hot cognition' or 'cold cognition', our coping styles in terms of 'monitoring' versus 'blunting'.

In the future, these labels may well be replaced or complemented by genome-based categories. In his novel *Next*, Michael Crichton fleshed out a picture of a world in which individuals think about themselves and their biographies in terms of genes, assessing their lives and their personalities in terms of the 'risk-seeking' gene and the 'infidelity gene' (associated with bonding behaviour), or in terms of the 'aggression gene' and the 'maturity gene' (associated with susceptibility to drug addiction).

The novel may serve as a scenario study for a world in which biobanking has become a major socio-economic factor. It will be interesting to see if society will indeed adopt this scenario, or if genome research will have different, as yet unthought-of implications. One thing is certain: our 'adaptation gene' will have to find a way to deal with this new stream of information about ourselves.

About the author

Hub Zwart (1960) is Professor of Philosophy at the Faculty of Science, Radboud University Nijmegen (the Netherlands) as well as scientific director of the Centre for Society and Genomics (CSG) and of the Institute for Science, Innovation and Society (ISIS). The focus of his research is on the philosophical and societal dimensions of emerging life sciences. For more information: www.filosofie.science.ru.nl/ and <http://radboud.academia.edu/HubZwart>.



Prof. Hub Zwart: will we come to view our bodies as repositories of marketable assets? (photo: Thomas Fasting)

Colophon
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